

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 28.12.2009

Printing date 28.12.2009

1 Identification of substance**Product details**

Trade name **2,4-Dichlorophenoxyacetic acid**
Stock number: A12467
L02914
Manufacturer/Supplier: Alfa Aesar
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Informing department: Product safety department.
Emergency information: Call Carechem 24 at +44 (0) 1865 407333

2 Hazards identification**Hazard designation:**

Xn Harmful

Information pertaining to particular dangers for man and environment

R 22 Harmful if swallowed.
R 37 Irritating to respiratory system.
R 41 Risk of serious damage to eyes.
R 43 May cause sensitisation by skin contact.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements**Danger**

H318 - Causes serious eye damage.

**Warning**

H302 - Harmful if swallowed.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.

Prevention:

H412 - Harmful to aquatic life with long lasting effects.
P262 Do not get in eyes, on skin, or on clothing.
P273 Avoid release to the environment.

Response:

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3 Composition/information on ingredients**Chemical characterization:**

Designation: (CAS#) 2,4-Dichlorophenoxyacetic acid (CAS# 94-75-7)
Identification number(s):
EINECS Number: 202-361-1
Index number: 607-039-00-8

4 First aid measures**After inhalation**

Supply fresh air and call for doctor for safety reasons.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation
Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage**Handling****Information for safe handling:**

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Storage Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

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Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

2,4-Dichlorophenoxyacetic acid
mg/m³

ACGIH TLV	10; Not classifiable as a human carcinogen
Austria MAK	10
Belgium TWA	10
Denmark TWA	5
Finland TWA	10; 20-STEL (skin)
France VME	10
Germany MAK	1
Hungary TWA	1; 2-STEL (skin)
Korea TLV	10; Not classifiable as a human carcinogen
Netherlands MAC-TGG	10
Norway TWA	5
Poland TWA	7; 20-STEL
Switzerland MAK-W	10; 50-KZG-W
United Kingdom TWA	10; 20-STEL
USA PEL	10

Components with critical values that require monitoring at the workplace:

Additional information:
No data

Personal protective equipment**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.

Breathing equipment:**Protection of hands:****Material of gloves**

Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Eye protection:

Safety glasses

Body protection:

Face protection
Protective work clothing.

9 Physical and chemical properties:**General Information**

Form: Powder
Colour: Whitish
Smell: Odourless

Change in condition

Melting point/Melting range: 136-140°C
Boiling point/Boiling range: 160°C
Sublimation temperature / start: Not determined

Flash point: Not applicable

Ignition temperature: Not determined

Decomposition temperature: Not determined

Danger of explosion: Product is not explosive.

Critical values for explosion:

Lower: Not determined
Upper: Not determined

Steam pressure: Not determined

Density at 20°C 1.42 g/cm³

Solubility in / Miscibility with Water at 25°C: 0.62 g/l

10 Stability and reactivity**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	347 mg/kg (mouse) 630-774 mg/kg (rat)
	LDLo	80 mg/kg (human) 93 mg/kg (man)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4H	>1800 mg/m ³ /4H (rat)
Irritation of skin	mild	500 mg/24H (rabbit)
Irritation of eyes	severe	750 µg/24H (rabbit)

Primary irritant effect:**on the skin:**

Irritant for skin and mucous membranes.

on the eye:

Strong irritant with the danger of severe eye injury.

Sensitization:

Sensitization possible by skin contact.

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Other information (about experimental toxicology):**Additional toxicological information:****Sensitisation**

Mutagenic effects have been observed on tests with laboratory animals.
Reproductive effects have been observed on tests with laboratory animals.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
May cause sensitisation by skin contact.

12 Ecological information:**Ecotoxicological effects:****Remark:****General notes:**

Harmful to fish
Do not allow product to reach ground water, water bodies or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water.
Danger to drinking water if even small quantities leak into soil.
Do not allow material to be released to the environment without proper governmental permits.
Harmful to aquatic organisms

13 Disposal considerations**Product:****Recommendation**

Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

Uncleaned packagings:**Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:**

None

Maritime transport IMDG/GGVSea:**IMDG/GGVSea Class:**

None

Marine pollutant:

No


Air transport ICAO-TI and IATA-DGR:**ICAO/IATA Class:**

9
None

Transport/Additional information:

Not dangerous according to the above specifications.

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

 Xn Harmful

Risk phrases:

22 Harmful if swallowed.
37 Irritating to respiratory system.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

24/25 Avoid contact with skin and eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
46 If swallowed, seek medical advice immediately and show this container or label.
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent